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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,983	10/19/2001	Yasuhiro Iwamura	215141US2	7491

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EXAMINER

KEITH, JACK W

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 04/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/981,983

Applicant(s)

Iwamura et al

Examiner

Jack Keith

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 27, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claims 1-9 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Upon review of applicant's election it is noted that numerous species still exist within the elected invention. The restriction/election of Paper no. 6 is withdrawn. A new restriction/election follows. Any inconvenience to applicant is regretted.

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6, drawn to an apparatus (transmutation device), classified in class 376, subclass 100.
- II. Claims 7-9, drawn to a process (method of transmutation), classified in class 376, subclass 156.

205/43 +

3. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by another materially different apparatus such as the transmutation of nuclides by utilizing a charged particle beam apparatus or a sonofusion apparatus. Furthermore, conventional nuclear reactors can also be utilized to accomplish the transmutation of nuclides.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Upon election of invention I or II, the applicant is further required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable (currently, no claims appear to be generic):

- ☒ A. The embodiment employing the transmutation device of figure 3.
- B. The embodiment employing the transmutation device of figure 18.
- C. The embodiment employing the transmutation device of figure 19.
- D. The embodiment employing the transmutation device of figure 22.

6. Upon election of one of species A-D, the applicant is further required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable (currently, no claims appear to be generic):

- a. The embodiment employing the structured body of figure 1.

- ☒ b. The embodiment employing the structured body of figures 2, 4-6 and 11.

7. Upon election of species b only, the applicant is further required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims

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shall be restricted if no generic claim is finally held to be allowable (currently, no claims appear to be generic):

bi. The embodiment wherein the mixed layer constituents are homogenous mixed (figures 2, 4, 6 and 11).

bii. The embodiment wherein the mixed layer constituents are layered (figures 5A and 5B).

8. Upon election of species a or b, the applicant is further required under 35 U.S.C. 121 to elect one of the following disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable (currently, no claims appear to be generic):

i. The embodiment wherein the transmutation material binding device laminates the nuclide transmuted onto the surface of the structured body by electrodeposition.

ii. The embodiment wherein the transmutation material binding device laminates the nuclide transmuted onto the surface of the structured body by vapor deposition.

iii. The embodiment wherein the transmutation material binding device laminates the nuclide transmuted onto the surface of the structured body by sputtering.

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iv. The embodiment wherein the transmutation material binding device exposes the structured body to a liquid that includes the nuclide to be transmuted, thereby bonding the nuclide to be transmuted onto the surface of the structured body.

v. The embodiment wherein the transmutation material binding device exposes the structured body to a gas that includes the nuclide to be transmuted, thereby bonding the nuclide to be transmuted onto the surface of the structured body.

9. Upon election of one of species i-v, applicant is further required to elect a single species of the following under 35 USC 121 for the purpose of examination. This additional requirement is to facilitate examining due to the broad range of materials or compositions that can be included in applicant's structured body:

(1) Elect each layer of the structured body material from those disclosed in the specification.

For example: Election of species a (figure 2): applicant would elect and identify the substrate material (23), the mixed layer material (22) and lamination layer material (21).

Pd Pd + CeO Pd

Note that a hydrogen absorbing material is not responsive to a single ultimate species election requirement. A proper election would be the hydrogen absorbing material consisting of palladium only.

Additionally note that the election to be responsive must be in closed-ended form (i.e., consisting of palladium only). An open-ended election (i.e., comprising) will be considered non-responsive.

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10. Upon election of single species (1) above, applicant is further required to elect a single species of the following under 35 USC 121 for the purpose of examination. This additional requirement is to facilitate examining due to the broad range of materials or compositions that can be included as applicant's transmutation nuclide:

(2) Elect the transmutation nuclide material from those disclosed in the specification.

For example: Cs¹³³ only.

Additionally note that the election to be responsive must be in closed-ended form (i.e., consisting of palladium only). An open-ended election (i.e., comprising) will be considered non-responsive.

11. Upon election of species a only above and the other noted species above, applicant is further required to elect a single species of the following under 35 USC 121 for the purpose of examination. This additional requirement is to facilitate examining due to the broad range of materials or compositions that can be included as applicant's absorption and desorption parts surrounding the structured body:

(3) Elect the absorption part material (12) surrounding the structured body.

(4) Elect the desorption part material (13) surrounding the structured body.

Note that the election to be responsive must be in closed-ended form (i.e., consisting of only). An open-ended election (i.e., comprising) will be considered non-responsive.

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12. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

13. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any


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amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.



Jack Keith
Examiner,
Art Unit 3641

jwk

April 10, 2003